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EXAMINER	
YANG, CLARA I	
ART UNIT	PAPER NUMBER
2612	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/506,329	YOON ET AL.	
	Examiner	Art Unit	
	Clara Yang	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 19 December 2006 have been fully considered but they are not persuasive.

a. 35 USC §112, first paragraph rejection of claim 3

Regarding the argument on page 12 that support for claim 3 can be found at the paragraph beginning on line 21 of page 5 and the paragraph beginning on line 15 of page 7, the examiner respectfully disagrees. Claim 3 calls for an application layer that produces "a command code and a factor code *from packet data of a received message*" (emphasis added). The paragraph beginning on line 21 of page 5 teaches application layer 4 performing functions of (1) "processing input data from a user interface," (2) "producing a command code," (3) "dealing with return arguments from the [slave]," and (4) "transmitting the result to the data connecting layer 5." The paragraph omits teaching that the command code is *produced from a packet data of a received message*. Furthermore, the paragraph beginning on line 15 of page 7 teaches that the master transmits a packet message comprising a command code and a factor code. Again, the paragraph omits teaching that the command code is produced *from a packet data of a received message*. Consequently, the examiner maintains the 35 USC §112, first paragraph rejection of claim 3. The examiner suggests changing the limitation to call for "an application layer producing a command code and a factor code and analyzing a return packet" since the applicants fail to teach an application layer that produces a command code and a factor code from a packet data of a received message.

b. 35 USC §102(b) rejection of claims 1 and 2 as being anticipated by Madany (US 5,922,050)

Regarding the applicant's argument on page 14 that Madany "teaches away from a master and slave network in which, inter alia, there is a communication line path for communication only between the first home appliance and at least one of the second home appliances" because Madany "discloses a device that 'broadcasts' its existence and identity across network 14" (see Fig. 4, step 54 and Col. 5, lines 1-5). Though Madany does teach a device that broadcasts its identity, Madany also teaches that network 14 may be a single point-to-point (PTP) communication link between a device and a computer (see Col. 3, lines 29-31). When network 14 is a single PTP communication link between a device and a computer, the PTP communication link is a communication link path for communication only between the device and the computer.

On page 14, the applicant further argues that Madany "contemplates a system in which multiple computers will receive the broadcasted information from a device...[that] is, Madany teaches away from 'the master function being provided *only* to the first home appliance; at least one second home appliance having a slave function, wherein the master is configured to *control* the slave function". First, the applicant fails to claim that a system *consisting* of only one first appliance. Since claim 1 calls for a system *comprising* a first home appliance, the term "comprising" is inclusive and does not exclude additional, unrecited elements. See MPEP §2111.03. Secondly, Madany teaches that the computer (i.e., a first home appliance) executes a program and provides control signals to a device, which receives and implements the control signals (see Col. 3, lines 12-14); thus Madany's computer 10 or 12 controls the device's slave function, such as the slave function to respond to the computer's status request (see Col. 6, lines 28-33).

For these two reasons, the examiner maintains the previous 35 USC §102(b) rejection of claims 1 and 2.

2. Applicant's arguments filed on 19 December 2006 with respect to the 35 US102(b) rejection of claims 1 and 6-7 as being anticipated by MacFayden et al. (US 5,101,191) and the 35 USC §102(e) rejection of claims 1-5 as being anticipated by Daum et al. (US 6,826,267) have been considered but are moot in view of the new ground(s) of rejection.

Drawings

3. The drawings were received on 19 December 2006. These drawings are acceptable.

Specification

4. The amendments to the specification and abstract were received on 19 December 2006. These amendments have been entered and do overcome the examiner's previous objections.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1, as amended, now calls for a "master function being provided *only* to the first home appliance" [emphasis added] and "a communication line path for communication *only*

between the first home appliance and at least one of the second home appliances" [emphasis added]. The applicant's specification fails to expressly support both limitations. In addition, when an amendment is filed in reply, a study of the entire application is often necessary to determine whether or not "new matter" is involved. The applicant should therefore specifically point out the support for any amendments made to the disclosure.

Claims 2-7 are also rejected under 35 U.S.C. §112, first paragraph since they depend directly or indirectly on claim 1.

Claim 8, as amended, now calls for "wherein the second home appliance is not configured to transmit control commands to the first appliance". Again, the applicant's specification fails to expressly support the negative limitation. Any negative limitation or exclusionary proviso must have basis in the original disclosure. If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims. See *In re Johnson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977) ("[the] specification, having described the whole, necessarily described the part remaining."). See also *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff 'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). The mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. See MPEP §2163 - §2163.07(b) for a discussion of the written description requirement of 35 U.S.C. §112, first paragraph.

Claims 9-11 are also rejected under 35 U.S.C. §112, first paragraph since they depend directly or indirectly on claim 8.

Regarding claim 3, as previously explained in paragraph 1, the 35 U.S.C. §112, first paragraph rejection (see pages 4-6 in the office action mailed on 19 September 2006) is maintained.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Houggy et al. (US 5,838,226).

Referring to claim 1, Houggy's system 10, as shown in Figs. 1 and 9, comprises (a) master control device 20 and/or master unit 30 (i.e., first home appliances), each having a master function of turning on/turning off electric lamp 54 via dimmer 50 (see Col. 11, lines 66-67; Col. 12, lines 1-46 and 56-60; Col. 17, lines 7-21 and 37-67; Col. 18, lines 1-3; Col. 24, lines 64-67; and Col. 25, lines 1-2); (b) at least one dimmer 50 (i.e., a second home appliance) having a slave function of responding to a command transmitter by master control device 20 and/or master unit 30 and transmitting its status to master control device 20 and/or master unit 30 (see Fig. 2; Col. 12, lines 56-67; and Col. 13, lines 1-13 and 36-40); and (c) radio frequency (RF) communication line paths, as indicated by the zigzag lines in Fig. 1, for communication only between master control device 20 and dimmer 50 or between master unit 30 and dimmer 50 when repeater 40 is unnecessary in the system (see Col. 12, lines 16-19).

Regarding claim 6, communication between master control device 20 (or master unit 30) and dimmer 50 is half-duplex (see Fig. 18 and Col. 25, lines 34-63).

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Madany (US 5,922,050).

Referring to claim 1, Madany teaches a system, as shown in Figs. 1 and 7, comprising (a) computers 10/100 and 12/102 that function as masters (see Col. 3, lines 12-14 and 36-38; Col. 4, lines 43-47; Col. 5, lines 45-49; Col. 6, lines 36-42; and Col. 7, lines 33-65); (b) devices 16, 18, and 20, which include TV 104, VCR 106, coffee maker 116 (i.e., home appliances), etc., that function as slaves (see Col. 3, lines 41-46; Col. 4, lines 24-33; Col. 6, lines 28-42; and Col. 7, lines 34-44); and (c) network 14 or house wiring 103 (i.e., communication lines) between computers 10/100 and 12/102 and the devices (see Col. 3, lines 2-23 and 31-33; Col. 6, lines 13-15; and Col. 7, lines 29-44). Madany teaches that network 14 may be a single point-to-point (PTP) communication link between a device and a computer (see Col. 3, lines 29-31). When network 14 is a single PTP communication link between a device and a computer, the PTP communication link is a communication link path for communication only between the device and the computer. In addition, Madany teaches that the computer (i.e., a first home appliance) executes a program and provides control signals to a device, which receives and implements the control signals (see Col. 3, lines 12-14); thus Madany's computer 10 or 12 controls the device's slave function, such as the slave function to respond to the computer's status request (see Col. 6, lines 28-33).

Regarding claim 2, Madany's computers are first home appliances that communicate with door lock 110 (see Col. 3, lines 12-14 and 36-38; Col. 4, lines 43-47; Col. 5, lines 45-49; Col. 6, lines 36-42; and Col. 7, lines 33-65). Door lock 110 is understood to be an exterior appliance since the computer activates light switch 108 to turn on the lights in the room next to the door

being unlocked (see Col. 7, lines 58-62), thereby providing a user with light as he/she enters the house.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madany (US 5,922,050) as applied to claim 1 above, and further in view of MacFayden et al. (US 5,101,191) and Fischer et al. (US 5,008,879).

Regarding claims 3-5, claims 3 and 4 require the first and second home appliances to have an application layer, a data link (i.e., data connecting) layer, and a physical layer. These layers are three of the seven layers of the Open Systems Interconnection (OSI) Reference Model and represent different categories of the communications process between different systems. According to the OSI model, the application layer contains functions for particular applications

services, the data link layer is concerned with procedures and protocols for operating the communications lines and detects and corrects message errors, and the physical layer deals with the physical means of sending data over lines. As called for in claim 3, Madany's computers 10 and 12 (i.e., masters) transmit commands to devices 16-20 (i.e., slaves) (see Col. 6, lines 36-42). In one example, Madany teaches that computer 10 or 12 sends a command to a device to cause the device to change its volume (see Col. 6, lines 36-42). It is understood that (1) computer 10 or 12's application layer produces the command, (2) the "change volume" command includes some factor code or argument to indicate how much to change the volume, and (3) computer 12 or 12's data connecting layer forms the command, as called for in claim 3. Madany also teaches that the device updates its status after executing the command (see Col. 6, lines 39-42); thus the device's application layer returns an execution result of the command upon receiving a status request from a master, and the device's data connecting layer sends the received command to the application layer and forms a return packet, (see Col. 6, lines 27-33), as called for in claim 4. Madany, however, fails to expressly teach the following: (1) computer 10 or 12's application layer analyzing a return packet (as called for in claim 3); (2) computer 10 or 12's data connecting layer forming a data packet, producing an error checking code, and repeatedly transmitting the packet if a return packet is a NAK or is not found (as called for in claim 3); and (3) computer 10 or 12's physical layer checking an address of the packet produced in the data connecting layer, determining whether a connection line path between computer 10 or 12 and a device 9 is vacant to transmit the packet, and delivering the transmitted packet to the data connecting layer. Likewise, Madany fails to expressly teach (4) a device's data connecting layer transmitting a NAK packet if an error is found in the received packet and producing an error checking code (as called for in claim 4); (5) the device's physical layer checking an address of the packet

produced in the data connecting later, determining whether a connection line path between computer 10 or 12 and a device 9 is vacant to transmit the packet, and delivering the transmitted packet to the data connecting layer (as called for in claim 4); and (5) the device's data connecting layer and physical layer is formed as one module (as called for in claim 5).

In an analogous art, as called for in claim 3, MacFayden teaches that a master (such as a regional controller or an appliance 11 functioning as a master) sends a command packet, which includes a command code, to a slave (such as another appliance 11) and that the slave sends a return packet, which is an acknowledge (ACK) packet, to the sender, causing the master to analyze the return packet in order to determine if retransmission of the command packet is necessary (see Col. 3, lines 1-14 and 32-60). The functions of generating a command code and analyzing the return packet occur at (a) the application layer. MacFayden also teaches that the master (1) generates parity verification and check sums (i.e., error checking code) (see Col. 3, lines 49-52); (2) generates a packet that contains a slave's address, the command code, and the error checking code (see Col. 3, lines 8-11 and 38-56; and Col. 4, lines 34-36); and (3) repeatedly resends the command packet if an ACK packet is not received within a specified time period (see Col. 3, lines 38-56). These functions occur at (b) the data link layer. In addition, MacFayden discloses that the master (1) checks the address of the return packet (see Col. 3, lines 8-11); (2) determines whether a communication line path between the master and the slave is vacant to transmit the command packet (see Col. 4, lines 16-18 and 25-45); and (3) delivers the return packet to the data link layer (see Col. 3, lines 8-14 and 38-60). These functions occur at (c) the physical link layer. Regarding claim 4, MacFayden teaches that a slave carries out a command contained in a received command packet (see Col. 2, lines 52-68 and Col. 3, lines 36-44). This function occurs at (a) the application layer. MacFayden's slave also (1) sends a received

command packet to the slave's application layer (see Col. 3, lines 36-44); (2) generates an ACK packet if the received command packet is free of errors (see Col. 3, lines 49-56); (3) generates an error checking code (see Col. 3, lines 49-52); and (4) forms a return packet containing the master's address (i.e., the recipient), the slave's address (i.e., the sender), the ACK packet, and the error checking code (see Col. 3, lines 8-11 and 38-56; and Col. 4, lines 34-36). These functions occur at (b) the data link layer. Finally, MacFayden teaches that the slave (1) checks the address of the received command packet (see Col. 3, lines 8-11); (2) determines whether a communication line path between the master and the slave is vacant to transmit the reply packet (see Col. 4, lines 16-18 and 25-45); and (3) delivers the received command packet to the data link layer (see Col. 3, lines 8-14 and 38-60). These functions occur at (c) the physical link layer.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Madany's masters and slaves as taught by MacFayden because error are reduced, thereby improving system reliability, when (1) computer 10 or 12's application layer analyzes a return packet (as called for in claim 3); (2) computer 10 or 12's data connecting layer forms a data packet, produces an error checking code, and repeatedly transmits the packet if a return packet is a NAK or is not found (as called for in claim 3); (3) computer 10 or 12's physical layer checks an address of the packet produced in the data connecting layer, determines whether a connection line path between computer 10 or 12 and a device 9s vacant to transmit the packet, and delivers the transmitted packet to the data connecting layer; (4) a device's data connecting layer transmits a NAK packet if an error is found in the received packet and produces an error checking code (as called for in claim 4); and (5) the device's physical layer checks an address of the packet produced in the data connecting

later, determines whether a connection line path between computer 10 or 12 and a device 9 is vacant to transmit the packet, and delivers the transmitted packet to the data connecting layer (as called for in claim 4).

Madany and MacFayden, however, fail to teach (1) the master's physical layer checking the address of a packet provided by the master's data link layer (as called for in claim 3), (2) the slave's data link layer generating a NAK packet if an error is found in the command packet (as called for in claim 4); and (3) the slave's data link layer and physical layer being in one module (as called for in claim 5).

In another analogous art, Fischer teaches a LAN with multiple operational capabilities, as shown in Fig. 1, comprising (a) enhanced and basic nodes that function as both source nodes (i.e., masters) and destination nodes (i.e., slaves) (see Col. 4, lines 51-67 and Col. 5, lines 12-26); and (b) medium 42 (i.e., communication line) that connects all the nodes (see Col. 4, lines 55-60). As called for in claim 3, Fischer's master performs a plurality of functions: (a) producing a data, such as command codes to control a sensor or an actuator, to be transmitted to a slave (see Figs. 5 and 6; Col. 6, lines 53-61; Col. 7, lines 44-46; and Col. 8, lines 49-62) and analyzing a return packet, such as ACK packet, a NAK packet, or an enhanced response (XRSP) packet (see Figs. 14, and 19; Col. 7, lines 44-46; Col. 16, lines 46-55; Col. 20, lines 32-49; Col. 23, lines 31-35 and 51-61; and Col. 27, lines 29-38), wherein both functions occur at the master's application layer; (b) generating a frame (i.e., packet of data) to be transmitted (see Figs. 5 and 6; Col. 7, lines 29-39; and Col. 8, lines 49-62) and generating an error checking code (see Fig. 6, FCS 102; Fig. 20, FCS; Col. 7, lines 36-39; Col. 12, lines 24-26; Col. 16, lines 37-39; and Col. 21, lines 8-13), wherein both functions occur at the master's data link layer; and (c) checking the address of the frame to be transmitted to a slave by comparing the address with those in capability table 84 (see Col. 7,

lines 7-27; Col. 8, lines 49-55; and Col. 9, lines 20-29 and 62-65), determining whether a communication line path is vacant to transmit the frame (see Col. 7, lines 7-27 and Col. 28, lines 3-7), and delivering a return packet (such as an ACK, NAK, or XRSP packet) to the data link layer (see Col. 7, lines 7-44; Col. 9, lines 11-15; Col. 16, lines 46-55; Col. 20, lines 32-49; Col. 23, lines 31-35 and 51-61; and Col. 27, lines 29-38), wherein all three functions occur at the physical layer. Per Fischer, the master checks the slave's address with capability table 84 in order to determine the highest data rate that the slave is capable of receiving (see Col. 9, lines 20-27 and 62-65). As called for in claim 4, Fischer's slaves also have a physical layer, a data link layer, and an application layer (see Col. 7, lines 3-46 and Col. 8, lines 49-65). Per Fischer, each slave (a) carries out a command of a received command packet (see Figs. 5 and 6; Col. 6, lines 53-61; Col. 7, lines 44-46; and Col. 9, lines 11-15), which occurs at the application layer; (b) sends the received command packet to the application layer (see Col. 6, lines 57-61; Col. 7, lines 42-46; and Col. 9, lines 11-15), generates an ACK or an XRSP if the received command packet is errorless (see Col. 7, lines 29-42; Col. 8, lines 59-62; Col. 16, lines 46-48; and Col. 20, lines 32-49), and generates an ACK frame as shown in Fig. 14 or an XRSP frame as shown in Fig. 19 (see Col. 7, lines 29-42; Col. 8, lines 59-62; Col. 16, lines 46-48; and Col. 20, lines 32-49), wherein these functions occur at the data link layer; and (c) checking the address of the frame to be transmitted to a slave by comparing the address with those in capability table 84 (see Col. 7, lines 29-44; Col. 8, lines 49-55; and Col. 9, lines 20-29 and 62-65), determining whether a communication line path is vacant to transmit the frame (see Col. 7, lines 7-27; Col. 8, lines 62-65; and Col. 28, lines 3-7), and delivering a return packet (such as an ACK, a NAK, or an XRSP) to the data link layer (see Col. 7, lines 7-44; Col. 8, lines 59-65; Col. 23, lines 31-61; and Col. 28, lines 3-7), wherein all three functions occur at the physical layer. Regarding claim 5, Fischer

teaches that network protocol controller 70 (i.e., one module) is the preferred means for achieving the physical layer and the data link layer functionality (see Col. 8, lines 53-55). When Fischer's enhanced nodes communicate with each other, the slave sends an XRSP frame to acknowledge (XRSP with successful delivery status) or negatively acknowledge (XRSP with unsuccessful delivery status) the receipt of the packet (see Col. 20, lines 32-49 and Col. 23, lines 31-35). An XRSP frame with successful delivery status is understood to be an ACK, and an XRSP with unsuccessful delivery status is understood to be a NAK.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Madany and MacFayden's master as taught by Fischer because a master's physical layer that checks the address of a packet provided by the master's data link layer prior to transmission enables the master to determine the slave's highest data rate and to transmit the command packet at that rate, thereby enabling Madany's network 14 to support devices having different communication capabilities (see Fischer, Col. 2, lines 10-15 and Col. 6, lines 7-14). In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Madany and MacFayden's slave as taught by Fischer because a slave's data link layer that generates an ACK or a NAK clearly indicates (1) if the command packet was received properly (which is represented by an ACK), (2) if the command packet was received but with errors (which is represented by a NAK), or (3) if the command packet was not received at all, thereby allowing the master to identify the situation and take appropriate actions (see Fischer, Col. 23, lines 51-61). Furthermore, by having slave's data link layer and physical layer in one module and the second home appliance's application layer in the appliance's host processor provides the second home appliance with additional processing resources (see Fischer, Col. 8, lines 48-65).

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Madany (US 5,922,050) as applied to claim 1 above, and further in view of MacFadyen et al. (US 5,101,191).

Regarding claim 7, Madany omits teaching the claim's limitation.

In an analogous art, MacFadyen teaches an automated system, as shown in Fig. 1, comprising (a) a regional controller having the master function of overall coordination and monitoring of the appliance network (see Col. 2, lines 45-51 and Col. 3, lines 44-47 and 56-60); (b) a plurality of appliances 11 having a slave function (see Col. 2, lines 52-64 and Col. 3, lines 44-60); and (c) a communications link or communications bus connecting the regional controller and appliances 11 (see Col. 3, lines 1-11 and 56-60). As called for in claim 7, MacFayden teach that the communication protocol between a regional controller and an appliance is as follows: (1) the regional controller transmits a packet to an appliance (see Col. 3, lines 47-52); (2) the local area network (LAN) interface associated with the appliance examines the address in the packet for a match, delivers the packet to the appliance if there is a match, and transmits an ACK packet (see Col. 3, lines 6-14); and (3) the regional controller receives the ACK packet or retransmits the data packet if the regional controller fails to receive an ACK packet within a specified time period (see Col. 3, lines 54-56). In other words, the regional controller first transmits a data packet to an appliance and receives an ACK packet from the appliance before starting communication with another appliance.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Madany's computers 10 and 12 and devices 18 and 20 as taught by MacFayden because a computer 10 (or computer 12) that transmits and receives on packet to and from one device 18 (or device 20) before starting communication with the next device avoids collisions and improves system reliability by ensuring that the transmitted packet

has been properly received by a device prior to communicating with another device (see MacFayden, Col. 3, lines 44-60).

14. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (US 5,008,879) in view of Madany (US 5,922,050).

Referring to claim 8, Fischer teaches a LAN with multiple operational capabilities, as shown in Fig. 1, comprising enhanced and basic nodes that function as both source nodes (i.e., masters) and destination nodes (i.e., slaves) (see Col. 4, lines 51-67 and Col. 5, lines 12-26); and medium 42 (i.e., communication line) that connects all the nodes (see Col. 4, lines 55-60). Per Fischer, enhanced and basic nodes all have common operational capabilities, such as a data transfer rate of 2.5 million bits per second (see Col. 5, lines 65-67 and Col. 6, lines 42-47). Enhanced nodes, on the other hand, also have enhanced operational capabilities, such as a data transfer rate of 20 million bits per second (see Col. 5, lines 67-68 and Col. 6, lines 1-7 and 42-47). In addition, frames communicated between a basic node and an enhanced node or between two basic nodes differ from frames communicated between two enhanced nodes (see Fig. 13, basic data packet; Fig. 20, data packet to an enhanced node; Col. 16, lines 13-41; Col. 20, lines 51-68; and Col. 21, lines 1-17). In other words, enhanced nodes communicate with each other using a data rate of 20 million bits per second and frame lengths of 29 symbols plus the data bytes with imbedded enhanced calibration symbol units (XCSUs) (see Col. 6, lines 42-47; Col. 20, lines 51-68; and Col. 21, lines 1-13), whereas basic nodes communicate with each other or with enhanced nodes using a data rate of 2.5 million bits per second and frame lengths of 188+22n or 210+22n symbols, where n is the number of data bytes in the packet (see Col. 6, lines 42-27 and Col. 16, lines 13-16). Fischer's method comprises a source node (hereinafter referred to as a "master") performing the following functions: (1) reading information of a destination node (hereinafter

referred to as a "slave") from configuration table 84 to determine if the slave is a basic node or an enhanced node, thereby enabling the master to set the highest data rate (i.e., communication speed) and packet length according to the information (see Col. 9, lines 20-29 and 62-65; Col. 16, lines 13-41 and 63-68; and Col. 20, lines 51-68); (2) forming a basic data packet frame (PAC) if the slave is a basic node or an enhanced data packet frame (XPAC) if the slave is an enhanced node (see Col. 8, lines 59-62; Col. 16, lines 13-41 and 63-68; and Col. 20, lines 51-68); and (3) transmitting the data packet to the slave at the preset data rate (see Col. 7, lines 7-10; Col. 8, lines 62-65; and Col. 9, lines 20-29 and 62-65). Because Fischer teaches that each node, whether basic or enhanced, includes sensors or actuators (see Col. 6, lines 57-61); thus it is understood that PACs or XPACs contains a command when a master communicates with a slave that is a sensor or an actuator. Fischer's method also comprises the slave performing the following functions: (1) receiving a master's packet (i.e., a PAC or XPAC) that contains the slave's address (see Col. 5, lines 12-16; Col. 7, lines 29-46; and Col. 9, lines 11-15); (2) checking the received packet for errors (see Col. 16, lines 42-48 and Col. 20, lines 32-49); (3) performing the command in the received packet (see Col. 6, lines 57-61 and Col. 12, lines 34-39); (4) generating an ACK (if the slave is a basic node) or an XRSP with successful delivery status (if the slave is an enhanced node) if the received packet is errorless (see Col. 16, lines 42-48; Col. 20, lines 32-49; and Col. 23, lines 31-35); (5) generating an XRSP with unsuccessful delivery status (if the slave is an enhanced node) if the received packet has errors (see Col. 20, lines 32-49 and Col. 23, lines 31-35); and (6) transmitting the XRSP to the master (see Col. 7, lines 39-42; Col. 8, lines 59-62; Col. 16, lines 42-48; Col. 23, lines 31-35). Finally, Fischer's method comprises the master performing the following functions: (1) checking whether the ACK or XRSP packet is received (see Col. 23, lines 31-61); and (2) transmitting the next packet or retransmitting the first packet if an XRSP

with unsuccessful delivery status has been received from the slave (see Col. 23, lines 47-61). Fischer, however, fails to teach that the master is a first home appliance and that the slave is a second home appliance.

In an analogous art, as explained in the previous 35 USC §102(b) rejection of claims 1 and 2, Madany's devices only transmit its identity, its applet, and its status to computer 10 or 12 (see Fig. 4, steps 56 and 64; Fig. 5, steps 74 and 83). In other words, Madany's device are unable to transmit control commands to control computer 10 or 12.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fischer's system and method as taught by Madany because a master that is a first home appliance and a slave that is a second home appliance enables Fischer's system and method to provide a home appliance coordination network with computers that can control a plurality of low-cost devices, such as TV 104, VCR 106, light switch 108, etc. (see Madany, Fig. 7 and Col. 2, lines 11-23).

Regarding claim 9, Fischer's first packet includes (a) starting delimiter (SD) field 92 (i.e., a starting code) (see Col. 11, lines 66-68 and Col. 12, lines 11-65); (b) ID of the source node (SID) 108, which is a requestor address (see Col. 12, lines 34-39 and Col. 16, lines 21-23); (c) ID of the destination node (DID) 106, which is the requestee address (see Col. 12, lines 34-39 and Col. 16, lines 19-21); (d) length of the data field 100 (see Fig. 6; Col. 12, lines 52-56; and Col. 16, lines 25-30); (e) data field 100, which forms a message of control orders (see Col. 12, lines 26-28 and Col. 16, lines 36-37); (f) frame check sequence (FCS), which is an error checking code (see Col. 12, lines 28-32 and Col. 16, lines 37-39); and (g) an ending delimiter (ED) field 96 (see Col. 11, lines 66-68).

Allowable Subject Matter

15. The indicated allowability of claims 10 and 11 is withdrawn in view of the 35 USC §112, first paragraph rejection of claim 1.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clara Yang whose telephone number is (571) 272-3062. The examiner can normally be reached on Tuesdays, 1:00-2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on (571) 272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CY
6 March 2007

BRIAN ZIMMERMAN
PRIMARY EXAMINER